

SUMMARY, CONCLUSIONS & RECOMMENDATIONS



42B01NW0090 63.1811 IVANHOE

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Project Ivanhoe group no. 15, staked to protect A.E.M. conductors located by a survey flown in April 1964, was explored by ground geophysical surveys and diamond drilling.

Two long conductors with sections of fair conductivity and partial magnetic and gravity correlation were located. Diamond drilling proved the anomalies to be caused by weakly graphitic slate bands accompanied by substantial amounts of pyrrhotite and pyrite. Minor amounts of sphalerite and chalcopyrite are present, however, all values were low to nil.

The conductors have been adequately explained and no other conductors of interest are present.

No further work on the claims is recommended.

ACCOMPANYING MAPS

- (1) Dwg. 2968 - "Magnetometer Survey"
- (2) Dwg. 2978 - "Vertical Loop E.M. Survey".

INTRODUCTION

Keevil Mining Group Ltd. Project Ivanhoe claims group no. 17 consists of fourteen contiguous claims, numbered S123401-02, S123502 to S123513 inclusive, in Ivanhoe Township.

The claims were staked and recorded in May 1964, the present recorded ^{owner} being R. Michael Butler, Suite 1000, 11 Adelaide St.W., Toronto, Ontario. In May 1965 geophysical surveys were recorded as assessment credits on claims S123503-04-05-08-09-10-11-12-13. Those surveys indicated that the picket line system had been cut almost parallel to the strike of the anomalies. In order to give better resolution of the results a new grid was cut and new surveys done. These, which cover claims S123502-03-04-05-08-09-10-11-12 are described in this report.

The work was done by Geophysical Engineering and Surveys Ltd. personnel under the direct supervision of the writer. The surveys were done by A. McClemens, 83 Algonquin Blvd. E., Timmins, Ontario.

LOCATION AND ACCESS

The claims are located in the north-east part of Ivanhoe Township, Sudbury Mining division, a distance of approximately 6 miles to the south of Foleyet, Ontario. Approximate co-ordinates are $48^{\circ} 09'$ north $82^{\circ} 26'$ west.

Access is by bush roads south and east from Ivanhoe Lake.

DESCRIPTION OF SURVEYS

A grid totalling approximately 5 miles of line was complete from a base-line oriented $N 50^{\circ} E$. Lines were cut in both directions at 600-foot intervals.

A magnetometer survey was done with a Sharpe Fluxgate Model M.F.1 magnetometer having a constant of 20 gammas per scale division. Readings were taken at 100-foot intervals along all the lines with fill-in

readings at 50-foot intervals in sections of high magnetic relief. Diurnal readings at 1 to 1½ hour intervals were taken on permanent base stations. All readings were corrected, plotted and contoured as shown on the accompanying map.

Approximately 235 readings were taken.

A vertical loop electromagnetic survey was done with a Sharpe S.E. 200 V.E.M. unit fitted with an amplifier and special batteries to increase the range to 600 feet. Readings were taken at 100-foot intervals along all the line using the parallel-line method. In this method the reading is taken at each station with the transmitter set up at the same station on an adjacent line. The transmitter-receiver interval thus is the line spacing or, in this case, 400 feet. All indicated conductors were then outlined by the detail or fixed transmitter method. In this method the transmitter is set up on a known or suspected conductor and readings taken at 50-foot intervals along a portion of the adjacent line or lines. In this way the conductor is traced from line to line and accurately located within 25 feet on every line. The results are shown on the accompanying map plotted as profiles.

Approximately 530 readings were taken.

DIAMOND DRILLING - Three holes were drilled to test the conductors.

<u>NO.</u>	<u>CO-ORDINATES</u>	<u>BEARING</u>	<u>DIP</u>	<u>CORE SIZE</u>	<u>LENGTH</u>
65-18	0700 , 24700E	N 40° W	50°	AXT-1 1/8"	598.0 ft.
65-19	1775S , 12700E	S 40° E	50°	AXT-1 1/8"	481.0 ft.
65-20	6750N , 6700E	S 40° E	50°	AXT-1 1/8"	<u>419.0 ft.</u>
				Total	1498.0 ft.

RESULTS OF SURVEYS

The magnetometer survey has outlined a number of small anomalies scattered throughout the survey area. These are small oval-shaped highs normally forming linear trends that probably reflect trends in the underlying formations. Magnetic relief ranges from 200 to 700

gammas, however, one reading of 1700 gammas above background was recorded.

The electromagnetic surveys outlined two long parallel conductors lying 600 to 800 feet apart. In general both show relatively weak anomalies but have sections of good conductivity. The anomalies have magnetic correlation in the sections of stronger conductivity.

The gravity survey indicates small gravity highs over parts of the conductors.

GEOLOGY

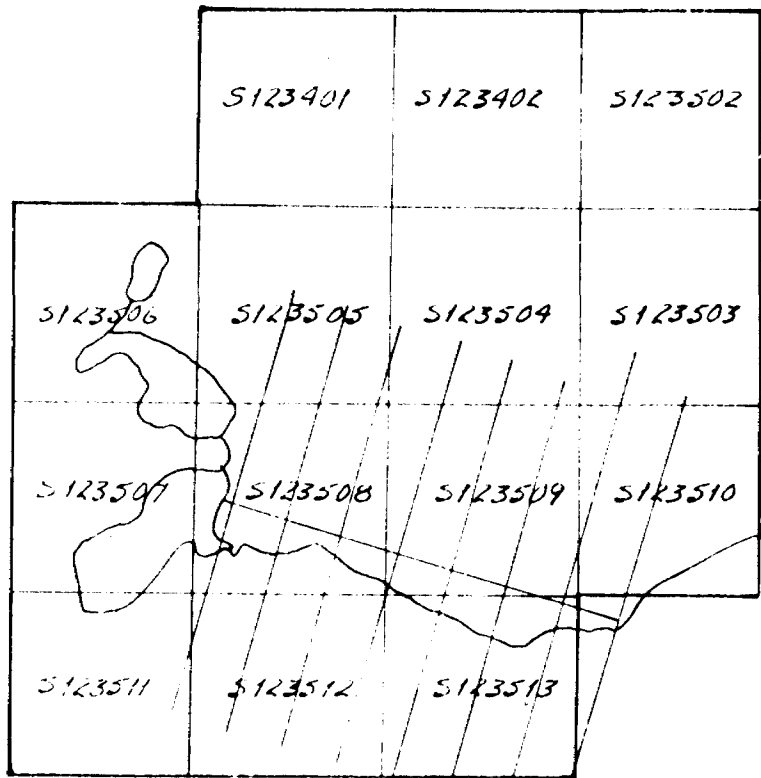
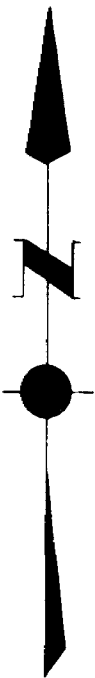
No outcrops are present within the claims area but basic andesite flows do outcrop a short distance to the north.

The drill holes intersected andesite flows with interflow sedimentary horizons. The andesites are fine to medium-grained chloritic pillow lavas and fragmentals. Two types of sediments were intersected. Hole 65-19 contains a 140-foot length of well-bedded greywackes with thin quartzite or chert beds. A similar but narrower and poorly bedded horizon was found in hole 65-20. Narrow weakly graphitic black slate horizons were located in holes 65-19 and 65-20.

Sulphide mineralization was located in all three holes and appears, along with the slate bands, to be the cause of the conductors. Hole 65-18 intersected a 10-foot flow top mineralized with 10% to 15% strongly magnetic pyrrhotite and a 3-foot vein of massive pyrrhotite in the andesites. Hole 65-19 located a 40-foot zone of 15% to 25% pyrrhotite in the form of stringers and patches and a 2-foot vein of massive pyrrhotite lying along the lower contact of the slate horizon. A 55-foot section of the sediments in hole 65-20 contains pyrite and pyrrhotite in the form of patches, stringers and veins. This mineralization averages 30% of the volume with short sections to 70%. Minor amounts of sphalerite and chalcopyrite accompany the other sulphides in this zone. All samples returned low values to nil in copper, zinc, nickel,

silver and gold.

The formations, from the geophysics, strike N 50° E and, from the drilling, dip 70° to 85° to the north-west. The well-bedded sediments in hole 65-19 have top facings to the north-west.



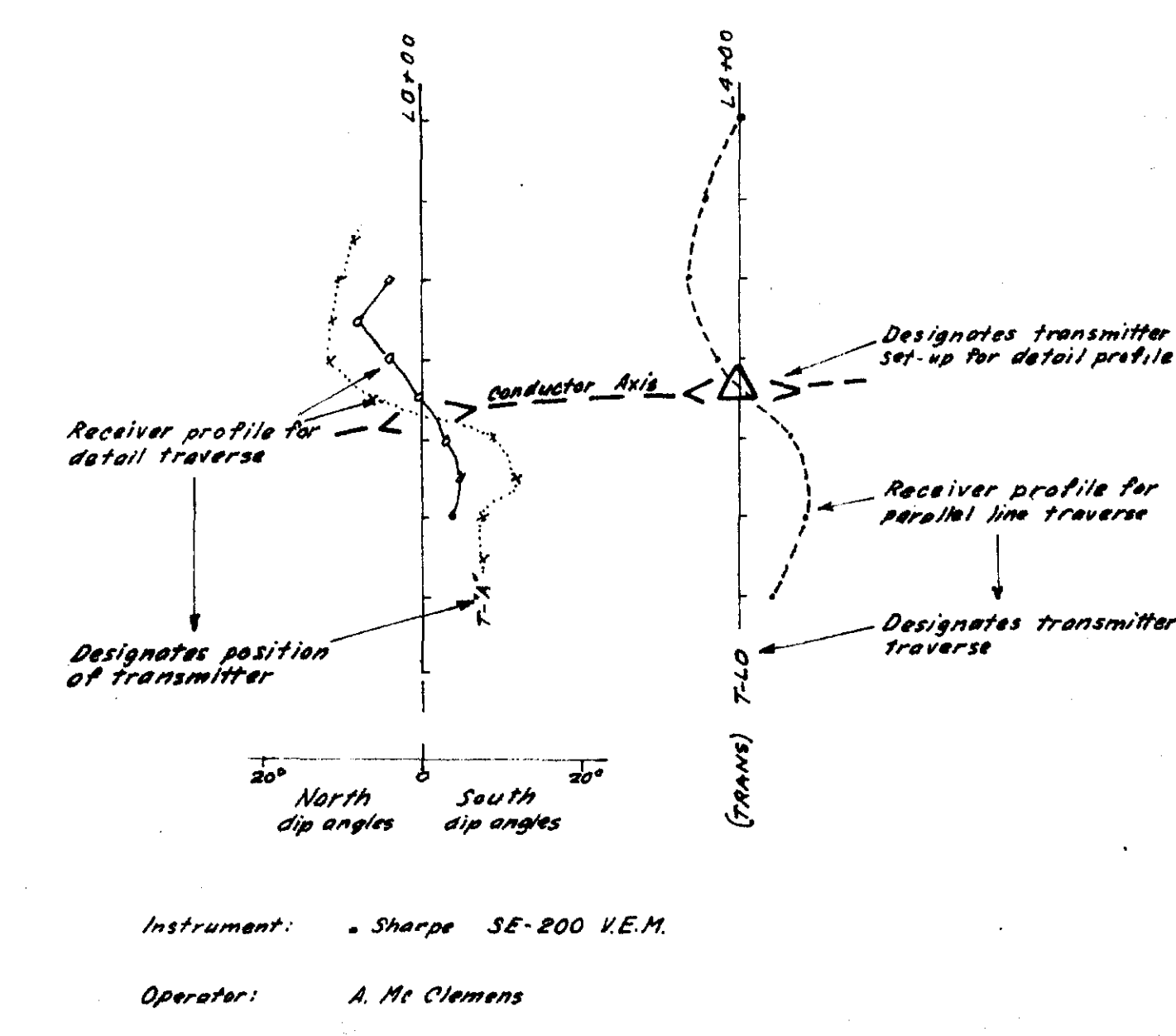
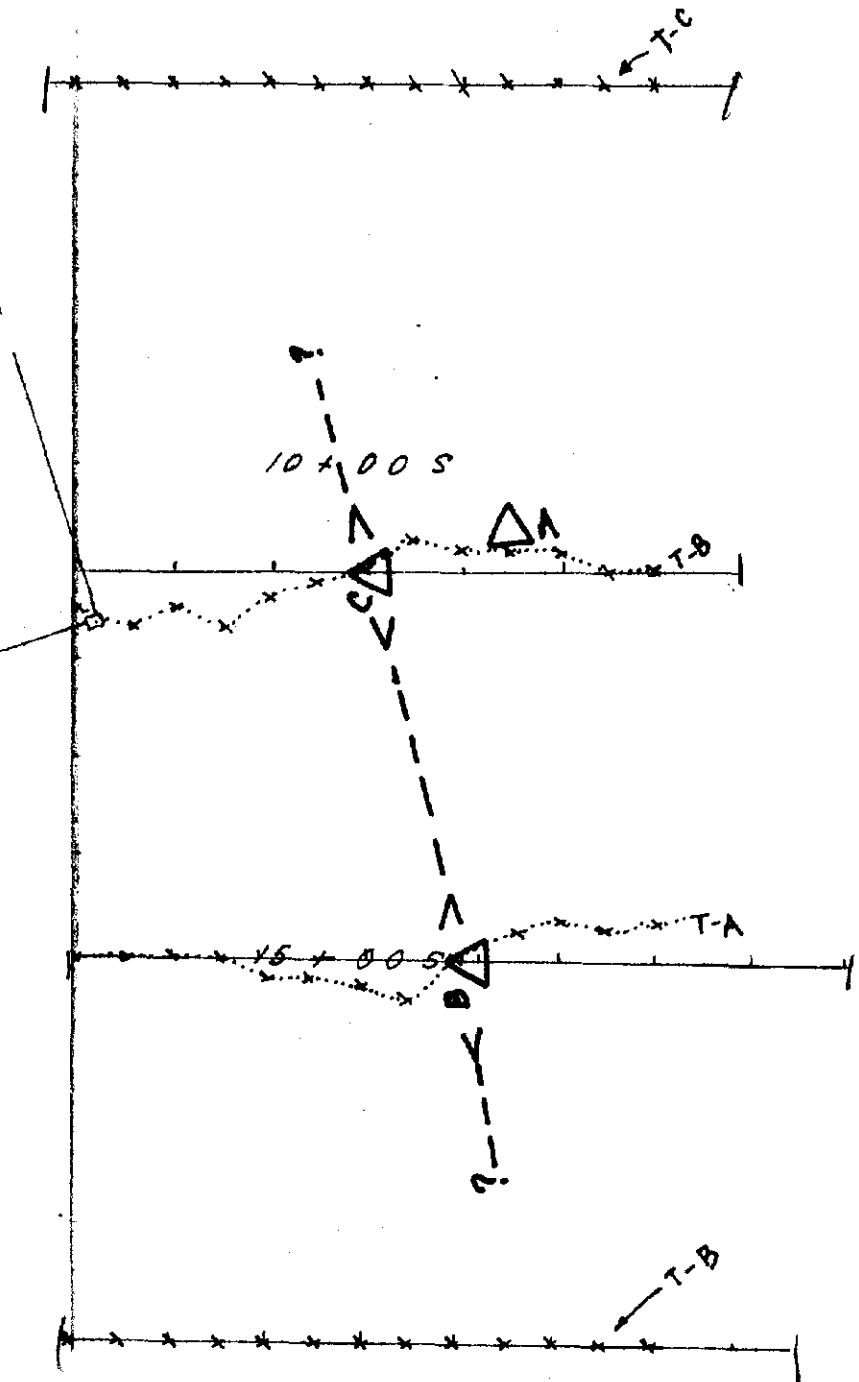
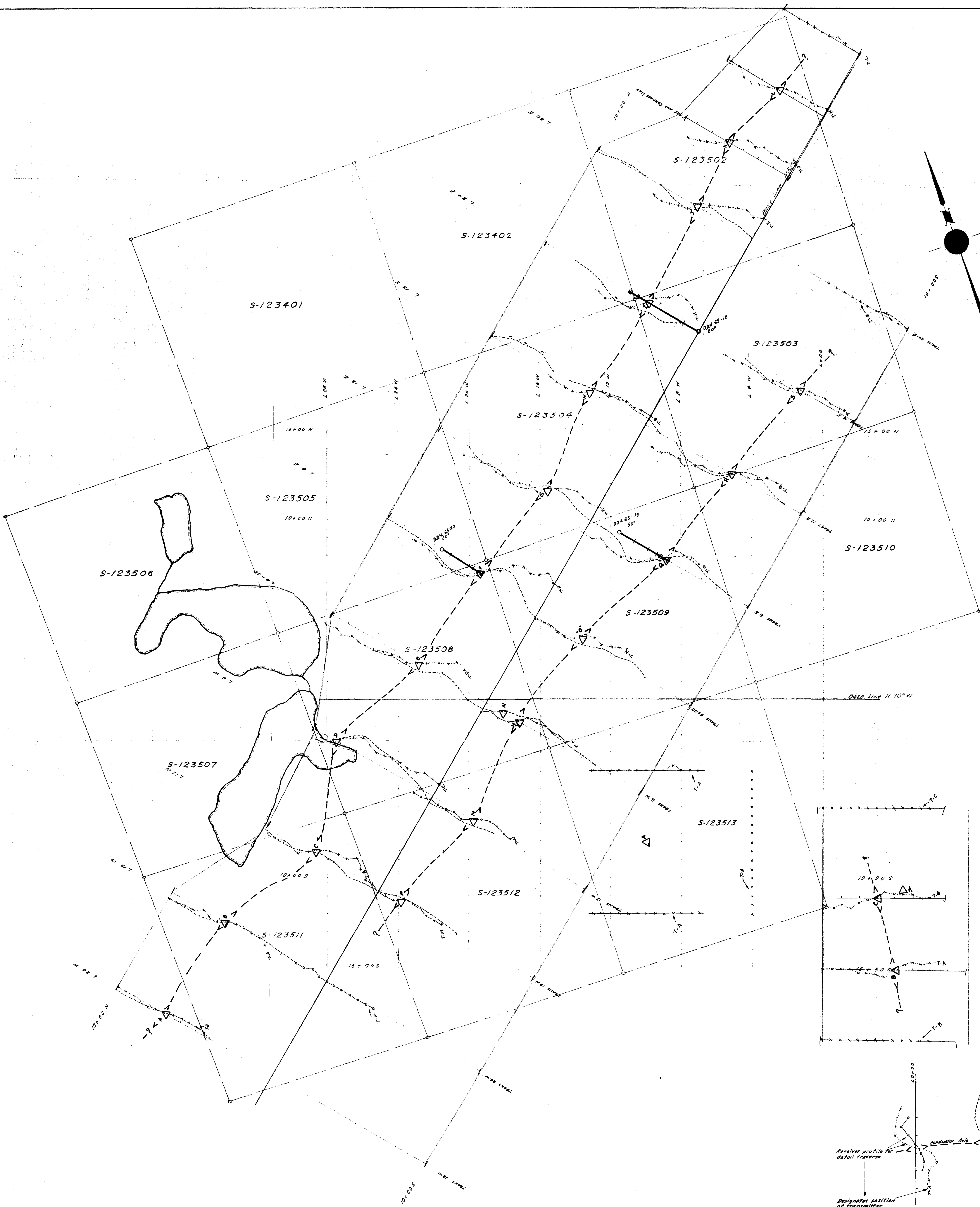
BM

IVANHOE TOWNSHIP
KEITH TOWNSHIP

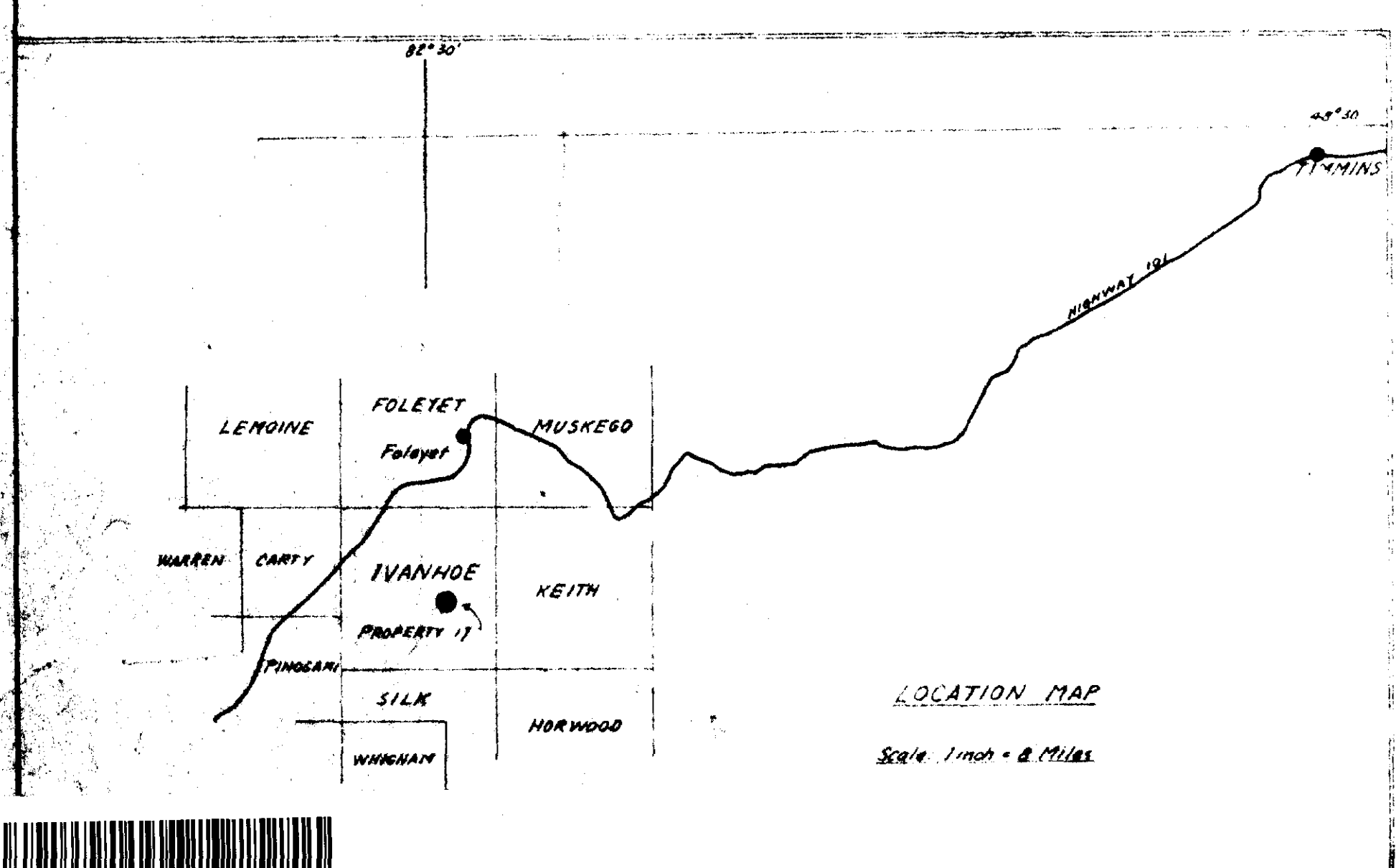
7M.

PROJECT IVANHOE
GROUP 17.

SCALE: 1" = 1/4 MILES MAY, 1965.



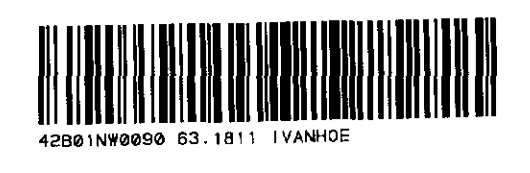
Instrument: - Sharp SE-200 V.E.M.
Operator: A. Mc Clements



VERTICAL LOOP EM SURVEY
 OF
PROPERTY 17
 TOWNSHIP OF IVANHOE,
 PROVINCE OF ONTARIO.
 FOR
KEEVIL MINING GROUP LTD.
 BY
 GEOPHYSICAL ENGINEERING AND SURVEYS LIMITED

Scale 1 inch = 200 feet
 0 200 400 600

Drawn by J.R.N. NTS 42/2
 Checked by NOV 1964 JOB 679 **DWG 2978**

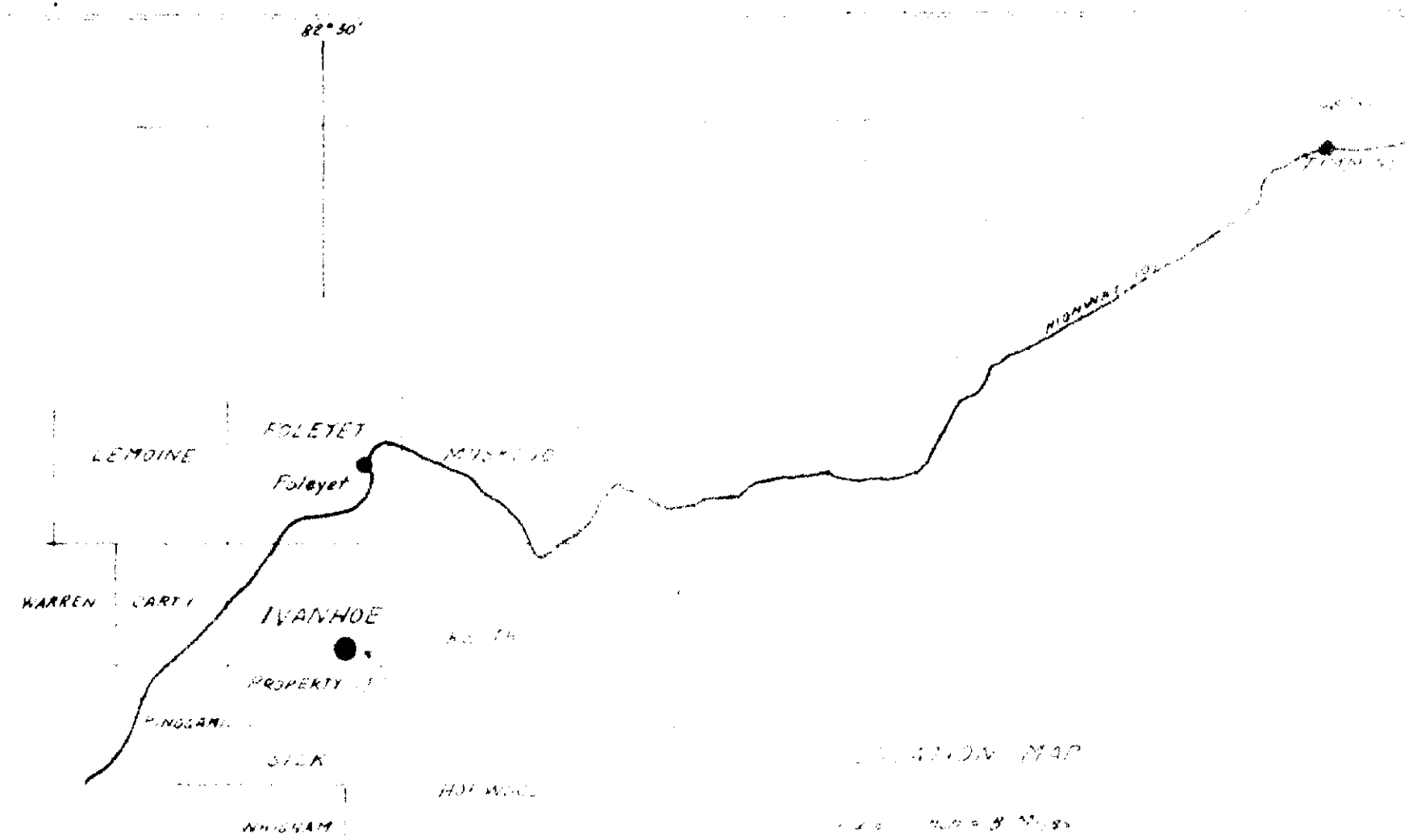




Note: Values shown thus $\frac{610}{530}$ are in gammas
 Contours shown thus $\frac{600}{500}$ are at 100 gamma intervals
 Instrument: Sharpe Model MF-1 Fluxgate Magnetometer
 Operator: A. McClements

LEGEND

- Siliceous Sediments
- Slaty Sediments
- Andesite, Andesite Tuff
- Strike & Dip of Bedding
- Top of Bed
- Diamond Drill Hole
- Formation Trends Indicated by VEM Survey



MAGNETOMETER SURVEY
 PROPERTY 17
 TOWNSHIP OF IVANHOE,
 PROVINCE OF ONTARIO

KEEVIL MINING GROUP LTD.

GEOPHYSICAL ENGINEERING AND SURVEYS LIMITED
 H. D. McLEOD

J.W. McLeod
 DWG 2968